

**Online Appendix for:**  
***Inclusive Meritocracy: Ability and Descriptive  
Representation among Danish Politicians***

Jens Olav Dahlgaard and Rasmus T. Pedersen

### **Descriptive statistics for population and politicians over election years**

In Table S.1, we show descriptive statistics for our data based on person-years. While slightly more than half of the adult population are women, they only make up between 28% and 37% of the different categories of politicians, which is consistent with previous studies showing that women are underrepresented in Danish politics (Kjaer and Kosiara-Pedersen 2018). With respect to the average age and share with non-Danish origin, the politicians on average are quite similar to the population. The standard deviations for age are considerably smaller for politicians than for the population, reflecting that fewer young and senior people run for office.

**Table S.1.** Descriptive statistics for population and politicians over election years.

	Population		Municipality		National	
	Mean	Std. dev.	Running	Elected	Running	Elected
Women	0.50	0.50	0.29	0.28	0.30	0.37
Age	47.08	18.24	47.83	48.87	44.72	45.45
Non-Danish origin (%)	0.03	0.17	0.02	0.02	0.03	0.02
Years of education	12.05	2.52	13.08	13.26	14.16	14.40
Earning score ( <i>z</i> -score)	0	0.79	0.09	0.31	0.29	1.04
Observations	44,667,381		80,729	21,371	6,443	1,241

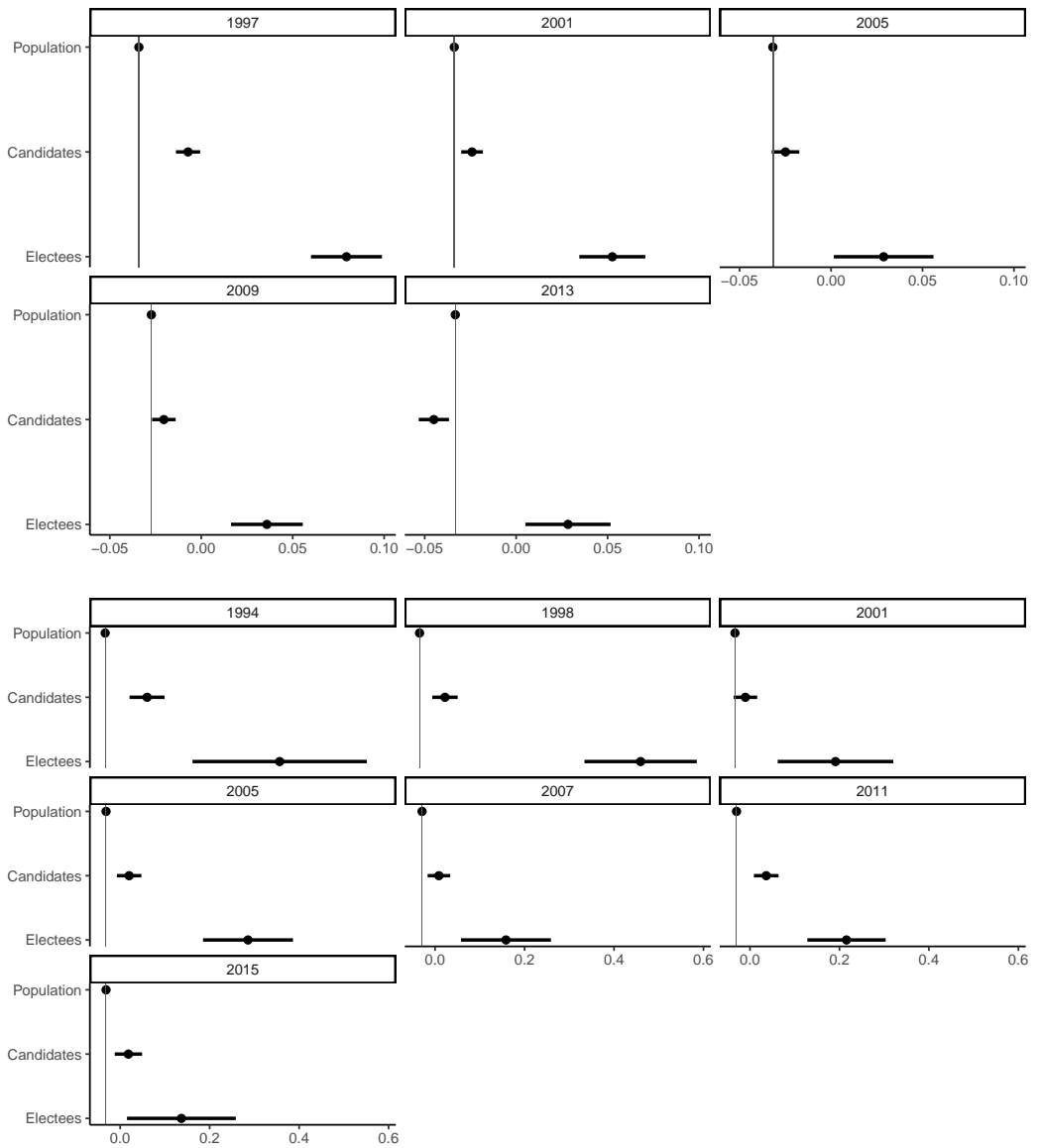
Notes: Descriptive statistics for our data based on person-years. The means are the average across all election years starting in 1990. For the observations, we count all observations in each of our 12 election years and sum over them. The population is only the adult population who is eligible to run in national elections. Individuals who are in the adult population in more than one election year are counted once for every time they are in the data. Likewise, candidates and election winners are counted each time they stand for election or win a seat. Years of education are based on recoding educational categories to minimal required years of education for the categories.

### **Selection on ability by election: means**

In Figure S.1, we compare means on the earnings score for the population, candidates, and election winners in each local and national election from 1994 to 2015. For the local elections, we begin in 1997, and for the national elections, we begin in 1994. We exclude the first election for which we have data, because we want to avoid that candidates and election winners have high earning scores due to having served in the term before the election. For the first election in our data, we cannot identify people who have been previously elected, but for every election from 1994 at the national level and 1997 at the local level, we can remove everyone who has previously been elected.

From the figure, we can see that in four out of five local elections, the candidates have higher earning scores than the population. In three of the elections, the population mean is not included in the 95% confidence interval for the candidates. The most recent election in the data, the election in 2013, stands out since those who ran in that election had *lower* earnings scores than the population. The figure also shows that the earnings scores are always higher for those who win a seat in the local council compared to the entire pool of candidates. In the figure, we include both election winners and losers in the pool of candidates. Accordingly, the difference between winning and losing candidates is even greater than what we can see in the figure.

In the national elections, we see a similar pattern. In all seven elections, both candidates and election winners have better earning scores than the population. In six out of seven elections the confidence intervals of the differences do not include zero, in one election this is only true for election winners. As for those who run for local office, we also see a tendency that those who win office have better earning scores than the candidates in general.

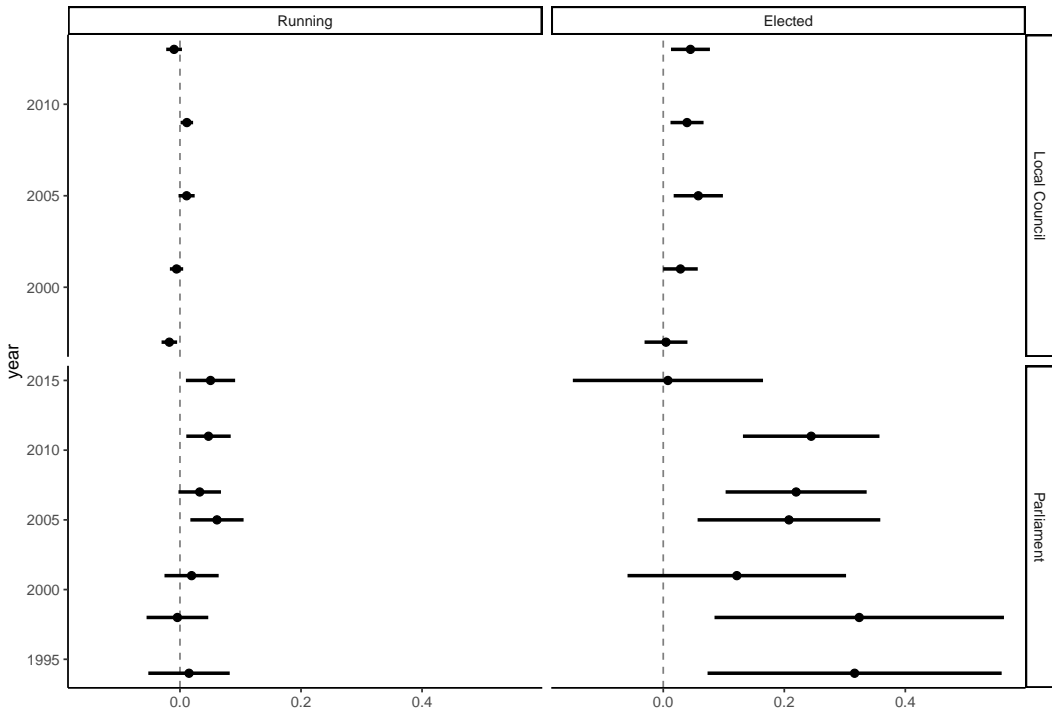


**Figure S.1.** Selection on ability by election: means

The figure shows average scores on income residuals with 95% confidence intervals for the population, candidates including electees, and those elected for office in each local election starting in 1997 and each national election starting in 1994. We start at the second election in our data in order to be able to remove candidates elected in an earlier term. To avoid that some very large residuals have a disproportional impact on the results, we remove the top and bottom 0.1% of the distribution on this variable. For the analyses, we rescale the ability measure to be centered at zero with a standard deviation of one. What appears as one vertical line is in fact the 95% confidence intervals for the population estimates.

### Selection of politicians compared to siblings by election: difference in means

In Figure S.2, we compare means on the earning scores of politicians and their siblings. The figure supplements the results from Figure 2 in the manuscript. From the figure we see that candidates for local council in general do not have better earning scores than their siblings, but elected candidates do tend to have better earning scores. The same is true at the national level where the candidates tend to have earning scores comparable to those of their siblings while those who win office have better earning scores than their siblings.

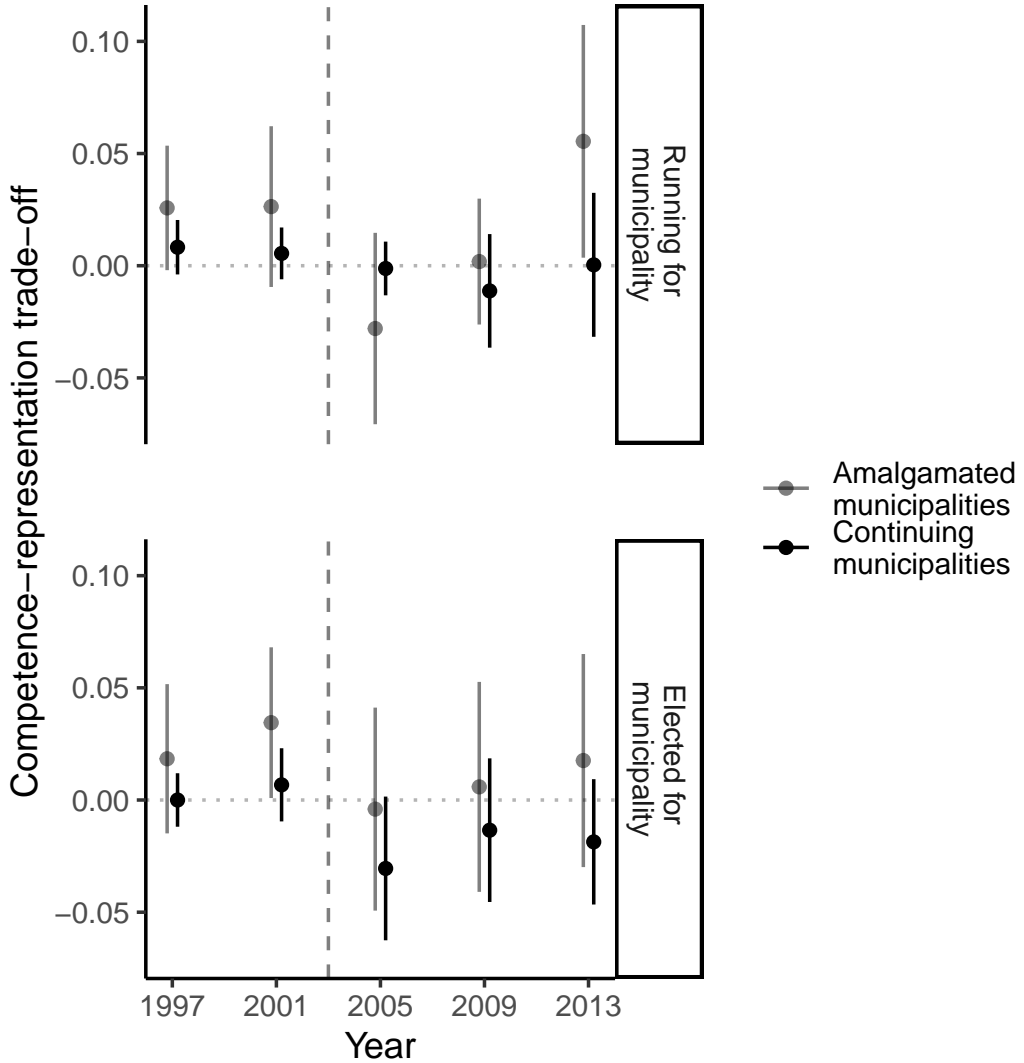


**Figure S.2.** Selection of politicians compared to siblings by election: difference in means.

The figure shows differences in average scores on income residuals with 95% confidence intervals between candidates including electees, and those elected for office and their siblings in each local election starting in 1997 and each national election starting in 1994. We start at the second election in our data in order to be able to remove candidates elected in an earlier term. To avoid that some very large residuals have a disproportional impact on the results, we remove the top and bottom 0.1% of the distribution on this variable. For the analyses, we rescale the ability measure to be centered at zero with a standard deviation of one. The dashed vertical lines mark no difference between the politicians and their siblings.

**Ability-background trade-off for continuing and amalgamated municipalities in each election year**

In Figure S.3, we show the ability-background trade-off for continuing and amalgamated municipalities in each election year from 1997 to 2013. In general, the pattern is that mostly there is not a trade-off.

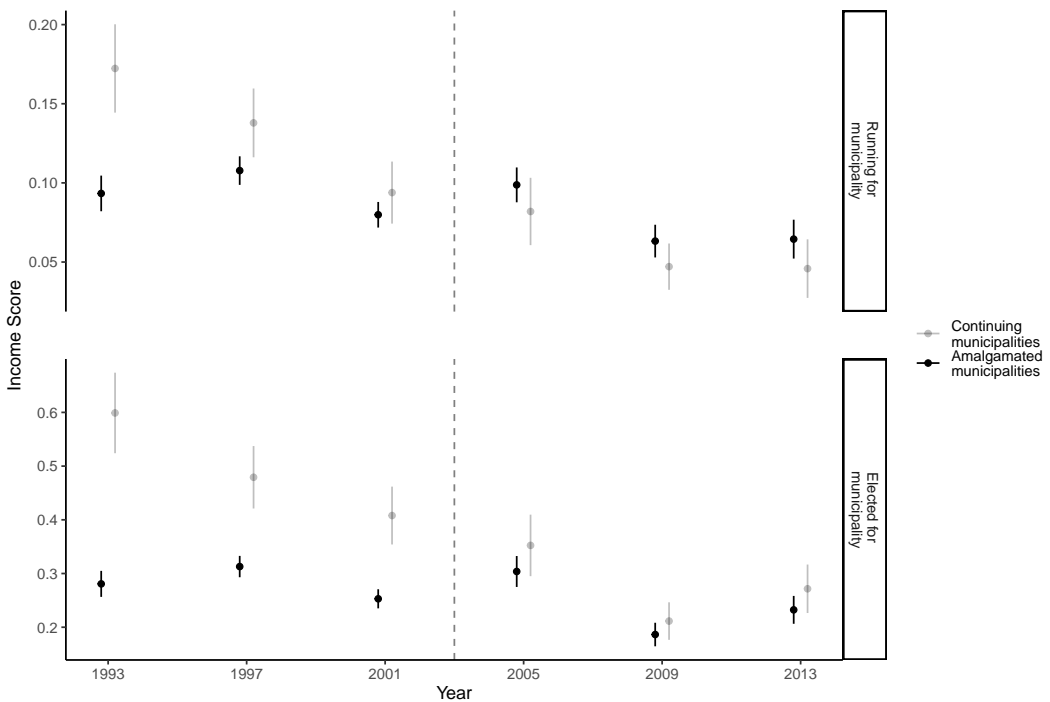


**Figure S.3.** Ability-representation trade-off by year and municipality type.

The figure shows the ability-background trade-off for every election year in the data with 95% confidence intervals. The plot is split by whether the municipality were affected by the reform (amalgamated) or not (continuing). The dashed vertical line signifies when the reform was known. The dotted horizontal lines mark no ability-background trade-off.

### Reform effect on selection on ability without sibling fixed effects

Figure S.4 shows averages of the income-based ability measure for candidates and election winners in amalgamated and continuing municipalities before and after the reform. The black points are for the municipalities affected by the reform, whereas the gray points are for the continuing municipalities. Positive values indicate selection on ability. The bottom panel shows that ability relative to the population was higher among candidates in amalgamated municipalities in 2001 prior to the reform. However, in 2009 that ordering had switched as the supply of candidates in amalgamated municipalities were of higher quality than in the continuing municipalities. Based on the top panel of the figure, it is evident that in 2001, the elected candidates had higher abilities relative to their populations in the municipalities that would continue after the at that point unannounced reform. In 2009, this difference had narrowed as selection on ability had dropped more in the continuing municipalities than in the amalgamated municipalities.



**Figure S.4.** Selection on ability (mincer measure)

The figure shows the averages on the ability measure based on income for candidates for city council and election winners for every election year except 2005 in the data with 95% confidence intervals. The plot is split by whether the municipality was affected by the reform (amalgamated) or not (continuing). The population average for fathers is zero, so values above zero indicate that there is some selection on ability. The dashed vertical line signifies when the reform was known.

Estimating the causal effect of the reform on the average quality of local politicians hinges on the assumption of parallel trends. Based on Figure S.4, this assumption is on shaky ground. In the prereform years, politicians in the continuing municipalities became less select from 1993 to 1997 and again from 1997 to 2001 with the result that the politicians were substantially less select in 2001 than they were in 1993. The politicians in the amalgamated municipalities seem to have been on a different trend. From 1993 to 1997, they became select, but from 1997 to 2001 they became less select with the net result being that in 2001 they were slightly less select than in 1993, but the differences were not statistically significant. As the parallel trends assumption does not seem to hold in Figure S.4, we prefer the specification with sibling fixed effects that we present in the main paper.

### **Reform effect on selection on ability measured by years of school**

Table S.2 displays the difference-in-differences between 2009 and 2001 for selection on ability using average years of schooling in amalgamated vis-a-vis continuing municipalities. The baseline models are similar to those we present in Table 1 of the paper, except the outcome is changed to average years of schooling in the candidate pools. In the administrative data, years of schooling is not directly observable, but the highest level of completed education is. We code as years of schooling, the minimum number of years required to complete an education at the highest level of completed education. Based on the results in the table, there is no evidence that the reform had any effect on years of schooling.

**Table S.2.** The effect of the reform on education for candidates running for office.

	Running for city council		Elected for city council	
	(model 1)	(model 2)	(model 3)	(model 4)
DiD	-0.13 (0.17)	-0.08 (0.16)	-0.24 (0.17)	-0.26 (0.33)
95% CI	[-0.47; 0.21]	[-0.39; 0.23]	[-0.58; 0.1]	[-0.9; 0.39]
Politician observations	26,084	13,826	7,145	3,663
Unique politicians	22,698	12,017	5,979	3,013
Municipality FE	YES	YES	YES	YES
Sibling FE	NO	YES	NO	YES

Notes: difference-in-differences estimates obtained when comparing the difference for selection based on the ability measured using income residuals between candidates/election winners in 2009 post-reform amalgamated municipalities to post-reform continuing municipalities *vis-a-vis* the differences in 2001 pre-reform municipalities. Model (2) and (4) include sibling fixed effects. All models include municipality fixed effects. Standard errors clustered by the municipality in parenthesis.

### **References**

Kjaer, Ulrik, and Karina Kosiara-Pedersen. 2018. The hourglass pattern of women's representation. *Journal of Elections, Public Opinion and Parties*, 1–19.